

**Minutes**  
**Fog and Smoke Working Group**  
July 11, 1998  
Rosemont, IL

Chairman: Larry Schoeneman; Interesting Products, Inc.  
Recording secretary: Karl G. Ruling

Members attending: Murray Gellatly; A.C. Lighting Ltd.; Principal  
Gary Fails; City Theatrical, Inc.; Principal  
F. Lee Iwanski; Four Star Lighting; Principal  
Mike Wood; High End Systems; Principal  
Adrian Segeren; Le Maitre Special Effects; Principal  
Marc Gingras; MDG Fog Generators; Principal  
Tony Douglas-Beveridge; PLASA Standards Office; Principal  
Martin Becker; Reel EFX; Alternate  
Eric Tishman; Rosco Laboratories; Principal  
Nathan Kahn; Theatre Effects, Inc.; Principal  
Thomas Costello; TJC and Associates; Principal (joined this meeting)  
James F. Foley; UCISCO, Inc.; Principal (joined at this meeting)  
Bill Hektner; USITT Health & Safety Commissioner; Principal  
Eckart Steffens; VPLT; Alternate (joined at this meeting)

Visitors: Dr. Larisa Rudenko; ENVIRON Intl. Corp.  
Dr. Ken Wilmarth; ENVIRON Intl. Corp.

1 Opening remarks

Larry Schoeneman called the meeting to order at 7:12 PM

2 Attendance and membership

2.1 Introductions of those present

2.2 Determination of quorum (5 needed)

Larry Schoeneman announced that we have a quorum.

2.3 Recognition of alternate voting members

Martin Becker, alternate for Jim Gill of Reel EFX

2.4 Requirements for membership

Larry Schoeneman explained that membership is open to all who have an interest in and are materially affected by the work of the group. He emphasized that voting members are required to attend meetings and respond to letter ballots. Missing two consecutive meetings will result in a member's status being changed to observer, pending the member's return to attending the meetings.

## 2.5 Processing of new membership applications

The following new members were accepted with a unanimous show of hands:

Jim Foley, principal for UCISCO

Thomas Costello, principal for TJC and Associates

## 2.6 Processing of changes to observer status

Gary Crawford of CITC had missed two meetings in a row with this meeting, and was moved to observer status

## 3 Approval of minutes from the previous meeting

Bill Hektner moved we accept the minutes without amendment. Eric Tishman seconded the motion. Unanimous by show of hands.

## 4 Approval of Agenda

Bill Hektner moved we accept the agenda. Mike Wood seconded the motion. Unanimous by show of hands.

## 5 Call for patents:

Larry Schoeneman read the call for patents to the group:

"ESTA intends to publish no standard that contains protected intellectual property, unless that property can be licensed by anyone for a reasonable fee. ESTA uses a process of open patent disclosures to implement this intent. ESTA does not conduct patent searches and does not warrant that its standards contain no protected intellectual property.

"In keeping with the open disclosure policy, I ask if anyone present wishes to notify the working group of the existence of a patent or copyright that might protect material in a standard being developed by the working group. You need not be the holder of the patent or copyright in order to notify the working group of its existence. "

## 6 Anti-Trust Statement

Larry Schoeneman read the anti-trust statement to the group.

"The ESTA Board of Directors, the Technical Standards Committee, and the leadership of this Working Group will reject or nullify any actions that restrain trade. Anyone who feels that an action restraining trade is being or has been taken is requested to bring the matter to the attention of the chair immediately. Anyone who feels that actions in restraint of trade have been taken and not properly annulled is requested to notify the TSC chair or ESTA president immediately.

"ESTA legal counsel has informed us that any member of this working group may be found individually liable for any action that restrains trade taken by this working group. An individual convicted of a violation of the Sherman Act may be fined as much as \$100,000 and be imprisoned for up to three years. An easy to read pamphlet describing restraint of trade is available from the Technical Standards Committee."

## 7 Task Group Reports

### 7.1 Fog standard E1.5

Dr. Larisa Rudenko and Dr. Kenneth Wilmarth from ENVIRON gave a presentation entitled "Risk Assessment and Approaches to Standard Setting." Dr. Rudenko was the primary speaker, and distributed to the working group a number of pages containing the major points of the presentation. [Document F&S/98-3011.] Some of the important points of the presentation are as follows:

Risk assessment is not a science, but it is a scientific method of organizing data. It is an important method since it fits into an old tenet of common law: the "reasonable person" standard. This is an extremely important part of due diligence and product stewardship.

It is important that we understand the difference between "hazard" and "risk." Virtually everything is a hazard, in that everything at a high enough dosage can cause harm. Risk, however, is the probability of there being some harm done because of exposure to a hazard. It is arrived at by considering both the hazardous nature of something and the probable exposure of the population of concern to this hazard. Risk is expressed in terms of an expected number of cases/exposure or cases/time.

Ideally the equation for assessing risk is:  $RISK = HAZARD \times EXPOSURE$   
It often becomes:  $RISK = HAZARD \times OUTRAGE$

Dr. Rudenko expanded on the differences between the first and second equations by noting that people will often choose to expose themselves to possible harm, but the perceived risk will be low because they chose to do this. When they do not feel they have a choice in their exposure, they are outraged, and will perceive the risk to be much higher. "It's very hard to combat emotional responses with rational arguments. The only way to bring them around is to get them quiet enough to get them sitting with you at the table." This is the "stakeholder process," which is important in standards setting.

This last point generated an airing of the frustrations the F&S Working Group has had with getting the performers' and designers' unions involved. Equity has declined to join the working group, as has the League. Monona Rossol, the Assistant Business Representative for Health and Safety for USA Local 829, expressed an interest, but did not submit an application after she discovered that the ANSI ASC E1 committee's secretariat is ESTA. There is no easy way to get our message to performers because they don't read the technical and trade publications to which we have access.

Martin Becker suggested we should develop an ESTA MSDS, a form that all manufacturers would use, and stated that the MSDS was the most read piece of literature. Wilmarth explained that the intent of an MSDS is not to communicate risk, but to communicate possible hazard. They are a device for communicating information to a person responding to an emergency or a person trying to determine storage procedures. That person is unlikely to be an actor or musician. No formal motion was made on this proposal, and no action taken.

It became clear to the working group that a risk assessment can be done and must be done, but that it would take specialized knowledge that the working group does not have in its membership.

Nathan Kahn moved that Larry Schoeneman write a letter to Larisa Rudenko of ENVIRON International Corp. asking for a price and an outline for a risk assessment project. Bill Hektner seconded the motion. The vote was unanimous by show of hands.

## 7.2 Fog machine instruction manual standard

Lee Iwanski presented the recommendations for fog machine manuals he and Brad Dittmer had drafted [F&S/98-3013]. Larry Schoeneman directed the working group to send any comments to Karl Ruling, the Technical Standards Manager, no later than October 1<sup>st</sup>. Ruling encouraged people to do this electronically so he does not have to re-type the comments. Ruling explained that he is a very expensive, very bad typist.

## 7.3 CMA invitation project (Schoeneman, Segeren)

The CMA project is tabled until we know more specifically what we want them to help us do.

## 7.4 Phog Photos (Wood)

Mike Wood reported that visual benchmarks are useful for setting relative initial levels, but that it is not good as an objective measure. The visibility is highly dependent on lighting. The same fog can look quite dense or be almost invisible, depending on how it is illuminated. Light coming toward the viewer tends to show the fog the best, while light shining away from the viewer into the fog from the viewer's position tends to show the fog the least. The fog responds to the light in a manner which is almost exactly the reverse of the way scrim responds.

Mike Wood posted pictures of his experiments photographing fog on the Web at <http://mwood.highend.com/Fogtests/fogpages/Home.html>.

Karl Ruling persuaded Mike Wood to write an article about his experiments for *Protocol*. This will be a way to provide useful information to ESTA's members on how to use fog, and will help publicize the projects of the F&S Working Group.

## 7.5 Intro to Fog Book III (Hektner)

Bill Hektner presented his rewrite of the introduction to the *Introduction to Modern Atmospheric Effects* [F&S/98-3012]. Larry Schoeneman directed the working group to send any comments to Karl Ruling no later than October 1<sup>st</sup>.

Larry Schoeneman said we need to add text dealing with oxygenated liquid nitrogen to the fog book. Larry said he will work with Jim Foley of UCISCO to develop this text. It will be sent to the working group in time for comments by October 1<sup>st</sup>.

## 8 Liaison Reports

### 8.1 PLASA (Douglas-Beveridge)

Tony Douglas-Beveridge reported, "All is peace and quiet. Nothing to report."

## 8.2 JATET (Schoeneman)

No news.

## 8.3 VPLT (von Hofen)

Eckart Steffens had left to attend a DMX meeting by this time, so there was no report from VPLT.

## 8.4 Labor Unions (Fails)

Gary Fails reported that he had talked to George Green, VP of Local 1 and head of the Safety Committee. Green said there was a meeting at the IA office on June 11, one to which ESTA had not been invited, but a follow-up to the meeting in March at the Stage Directors and Choreographers Foundation.

Fails also talked to Monona Rossol, who told him about the work to create and control the microclimate in the pit at *Beauty and the Beast*. She also went to the June meeting.

Fails also talked to the chairman of the IA Safety Committee, Joe Petruccio. Fails sent him a copy of the fog book, which Petruccio is taking to the international convention to discuss with the Safety Committee.

Exactly what happened at the June meeting is unclear. Fails said the meeting was probably to develop common language on safety issues for the union contracts.

Gary Fails asked that we appoint a West Coast labor union liaison, since Marge Romans, who had been doing this, is no longer a member of the Fog & Smoke Working Group. Larry Schoeneman appointed Martin Becker and Thomas Costello, who agreed to serve.

## 8.5 Stage Directors and Choreographers Foundation luncheon (Fails and Ruling)

Ruling asked that the group read his April 16, 1998 memorandum [F&S/98-3014].

## 9 New business

Gary Crawford was not in attendance to present the concerns and proposals he has outlined in his letter dated June 15, 1998 [F&S/98-3009]. Nathan Kahn moved that we table action on Gary Crawford's letter until the next meeting. Murray Gellatly seconded the motion. Unanimous.

## 10 Other business

None.

## 11 Schedule for future meetings

The next meeting will be Saturday, November 14, 1998, from 7:00 to 11:00 p.m., in Phoenix, AZ.

## 12 Adjournment

Bill Hektner moved we adjourn. Eric Tishman seconded. There were no objections. The meeting was adjourned at 11:05 p.m.